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Final Report
District One ADF Demonstration Project # ADF-D-0646

# Green Foxtail Control In Wheat

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## Abstract:

Five herbicides and harrowing were compared for green foxtail control in the Lampman area. The five herbicides included Achieve, Stampede CM, Hoegrass, Laser, and Heritage. Heritage provided the best control (near 100%). Green foxtail control within the four post-emergent herbicides were similar. Due to additional flushes of foxtail after spraying, green foxtail control was not satisfactory. The harrowing treatment (3-4 leaf stage of wheat) had very little or no effect on green foxtail control.


## Objective:

The objective of this project is to assess the effectiveness of various herbicides and harrowing in controlling the weed, green foxtail.

## Methodology:

Location - This project was situated near Browning (NW 9-6-5-W2) in the RM of Browning #34 and carried out by Ludwig Agresearch Consulting Ltd.

Treatments - The treatments used in this trial included:

1) Stampede CM
2) Laser
3) Achieve
4) Heritage
5) Hoe-Grass
6) Harrowing (3-4 leaf stage of wheat)

Field Design - There were 4 replications of each treatment with each replication measuring 5m X 15m. All treatments with the exception of Heritage was randomized within a block design. Heritage was applied in a strip along the side of the plot location.

Herbicide Application:

Heritage - Heritage was applied the previous summer. The rate used was 10.7 lb/acre (12 Kg/ha).

Post-Emergent Herbicides - These herbicides were applied June 12 (early morning) using a water volume of 40 L/acre (100 L/ha). The rates used are:

1) Stampede CM - 1.1 L/acre (2.75 L/ha)
2) Laser - 1 L/acre (2.5 L/ha)
3) Achieve - .22 lb/acre (0.25 Kg/ha) + 1% Superior Oil Concentrate
4) Hoe-Grass - 1 L/acre (2.5 L/ha)

At the time of application, the wheat was in the 5+ leaf stage. The green foxtail was in a range of leaf stages. The population density ranged from 200 to 350 green foxtail plants/$m^2$. The composition of the green foxtail population is as follows:

1-2 leaf stage - 40%
3-4 leaf stage - 40%
5+ leaf stage - 20%

Harrowing - This treatment was done at the 3-4 leaf stage of the wheat.

Ratings - A general rating 2 weeks after application and a weed count 4 weeks after application were done.

Extension - Local producers were introduce to this project through an extension agrologist newscolumn and a district mailout. Each of these news releases listed the activities being done and the location of the plot. The plot was also located at a corner on a major grid road in the R.M. of Browning #34. The results of the project will also be included in the district project newsletter and booklet of results. The newsletter will be sent to all producers and booklet given to those expressing interest for more information.

## Results:

The general rating for green foxtail control 2 wks after application is presented in Table 1. The plots were evaluated using the Expert Committee on Weeds rating scales. The values range from 0 - 9. A rating of 0 represents no control and a rating of 9 represents complete control. A score of 7 or higher represents acceptable control.

Table 1 Green Foxtail Control 2 wks after application.

| Treatment | Rating |
|---|---|
| Achieve | 6.88 b |
| Stampede CM | 6.83 b |
| Hoe-Grass | 6.50 b |
| Laser | 7.25 b |
| Harrowing | 0.00 c |
| Heritage | 9.00 a |

Ratings with a different letter represent definite differences in green foxtail control. Those treatments with the same letter represents similar levels of green foxtail control.

The weed counts for green foxtail 4 wks after application are presented in Table 2.

Table 2 Green Foxtail Counts 4 wks after application.

| Treatment | Count (#/$m^2$) |
|---|---|
| Achieve | 169.5 b |
| Stampede CM | 187.9 b |
| Hoe-Grass | 291.0 b |
| Laser | 176.5 b |
| Harrowing | 470.0 a |
| Heritage | 1.5 c |

Heritage provided near 100% control of green foxtail. This herbicide was the best treatment in this project.
The post-emergent herbicides all controlled green foxtail to a similar degree. There was satisfactory control of the green foxtail present at the time of application, however, due to additional flushes of green foxtail after the time of application, overall green foxtail control was not satisfactory with any of the post-emergent herbicides.

The harrowing treatment did not have any effect on green foxtail control. The primary reason was that at the time of harrowing (3-4 leaf stage of wheat), only a small percentage of the overall population had emerged. Harrowing at a time when the majority of the green foxtail plants had emerged would likely have damaged the wheat stand.

Many producers were following the project closely throughout the summer at this location.

## Final Comments:

In this trial, the pre-emergent herbicide, Heritage, provided the best control of green foxtail. The post-emergent herbicides had similar control, however, problems with delayed flushes, caused these herbicides to have overall unsatisfactory control. The delayed flushes posed even additional problems for the harrowing treatment. These delayed flushes were likely the result of the cool spring. In order to assess the post-emergent herbicides more effectively, this project should be conducted over a period of years. This project could be further improved by assessing the effect of various times of application for post-emergent herbicides.

## Impacts:

Green foxtail is a major weed in District #1. This project is of interest to farmers in the district. In addition to visiting the site, many are interested in the final results which will impact their green foxtail control decision.